

REMARKS

Claims 1-27 were pending, with claims 15-20 having previously been withdrawn. Claims 1 - 27 are herein canceled. New claims 28 – 53 are herein presented. The newly presented claims further clarify the context for the claimed invention, although such context was at least implicit in the original claims as filed. As such, the new claims are not presented for reasons relating to patentability and should not be so construed. New claims 28 - 53 are fully supported by the specification as filed, and no new matter has been added. Applicants respectfully request reconsideration of the application in view of the new claims and remarks that follow.

Claim rejections under 35 U.S.C. §112

The Office Action rejected claims 1, 2-7, 9, 10, 12, 14, 21 and 25 as failing to comply with the enablement requirement under 35 U.S.C. §112.

The Office Action states that the specification “does not provide information on the force assembly as being a movable member capable of applying force to the pump cassette, to press the pump cassette against the control assembly but does not make very clear what part or parts of the invention it pertains to...” Applicants respectfully disagree.

The specification discloses an embodiment, for example in which “[a] force assembly has a movable member capable of applying force to the pump cassette, to press the pump cassette against the control assembly.” (para. 0013). Also, “the force assembly includes a movable member capable of applying a continuous force to the pump cassette to press the pump cassette against the control assembly (para. 0054). In an embodiment, the movable member can include “an expandable member that is capable of expanding, such as a bladder. Expansion of the expandable member presses the pump cassette against the control assembly.” (para. 0014) In an embodiment, the movable member can be “positioned between the back plate and the frame,” (para. 0014) and moving of the movable member can include “expanding the movable member to press the pump cassette against the control assembly.” (para. 0018). In addition, the movable member “may be coupled to a piston assembly which is capable of contacting the pump cassette.” (para. 0014). A representative embodiment including a back plate 705, frame 708, bladder 707, and piston assembly 711 is clearly described and enabled throughout the specification as filed, and shown, for example, in Figure 4A.

Consequently, as demonstrated above, the force assembly is clearly enabled, and Applicants respectfully request withdrawal of the rejection of any claims on this basis under 35 U.S.C. §112.

The Office Action further states that “a movable member is described as a member positioned between the back plate and the frame but is not shown in the drawings...” Applicants respectfully disagree.

In an embodiment, the movable member can include “an expandable member that is capable of expanding, such as a bladder. Expansion of the expandable member presses the pump cassette against the control assembly.” (para. 0014) In an embodiment, the movable member can be “positioned between the back plate and the frame,” (para. 0014) and moving of the movable member can include “expanding the movable member to press the pump cassette against the control assembly.” (para. 0018). In addition, the movable member “may be coupled to a piston assembly which is capable of contacting the pump cassette.” (para. 0014). A representative embodiment including a back plate 705, frame 708, bladder 707, and piston assembly 711 is clearly described and enabled throughout the specification as filed, and shown, for example, in Figure 4A.

Because an embodiment of the movable member is clearly shown in the drawings, Applicants respectfully request withdrawal of the rejection of any claims on this basis under 35 U.S.C. §112.

The Office Action also states that “[w]ith regard to the membrane it is disclosed that bezel gasket 612 includes membranes that correspond to the chamber cavities and valve cavities, chamber cavities are clear but it is not clear what the valve cavities are.” Applicants respectfully disagree.

The Examiner’s attention is kindly drawn to paragraph 0115 and Figure 3B of the specification. In a representative embodiment, the valve cavities 635 are “for operating the various valves of the pump cassette 202.” (para. 0115). In addition, the related applications that have been incorporated by reference may also be relevant in this regard.

The Office Action also states that there is no “definitive description of the control assembly, force assembly, valve cavities etc.,” and that “[i]t is still not clear what parts/structure is called [*sic*] to be a control assembly (force assembly, valve cavities etc.) by the applicant.” Applicants respectfully disagree.

Examples of the force assembly and valve cavities have been well-described, as demonstrated above. Similarly, the specification provides ample description of an embodiment of the control assembly, including, for example, paragraph 0011:

To those ends, the control assembly typically includes a front surface that is sealingly pressed against a rear surface of the pump cassette. The front surface of the control assembly includes membranes that align with chambers and valves in the cassette. The membranes in the control assembly are pneumatically controlled to inflate and deflate in a manner that precisely controls operation of corresponding valves and chambers in the cassette.

Moreover, embodiments of the control assembly can include “a bezel and a bezel gasket. The bezel gasket includes a membrane capable of being displaced to operate the pump cassette.” (para. 0016) In addition, the control assembly “may include a rigid plate to which the bezel is attached.” (para. 0016). An exemplary control assembly 408 is shown in Fig. 3A. In an embodiment, “[d]uring use, the control assembly is pressed in close face-to-face contact against the pump cassette, and precisely actuates the membrane-based chambers and valves to regulate fluid flow through the cassette.” (para. 0054).

Consequently, examples of the control assembly, force assembly and valve cavities have been amply described in the specification and drawings as filed, and Applicants respectfully request withdrawal of the rejection of any claims on this basis under 35 U.S.C. §112.

Finally, Applicants note that the last sentence under the section “Claim Rejections – 35 U.S.C. 112” (i.e., page 3, line 5 of the Office Action) is incomplete. Nevertheless, Applicants believe that all of the issues raised in the §112 rejections have been addressed explicitly and in sufficient detail to permit reconsideration and withdrawal of these rejections.

Claim Rejections under 35 U.S.C. §102(b)

The Office Action rejected claims 1-5, 6, 8-11, 21-24, 26 and 27 under U.S.C. §102(b) as being anticipated by U.S. Patent no. 4,798,580 to DeMeo et al. (“DeMeo”). Applicants respectfully traverse.

The Office Action at pages 3-4 states that DeMeo discloses:

a system for pumping fluid using a pump cassette (50), the system comprising: a control assembly (Latch, latch supports, cam bar etc. as seen in figure 8) for pneumatically (Col. 1 ll. 8-33) operating the pump cassette, and a force assembly (roller, tubing assembly) having a movable member (roller/tubing) capable of applying force

to the pump cassette to sealingly press the pump cassette against the control assembly (figure 8); wherein the movable member (roller/tubing) includes an expandable member (tubing) capable of expanding to press the pump cassette against the control assembly; wherein the expandable member is a bladder (tubing is a bladder (bodily sac for liquid or gas)); wherein the force assembly includes a door (52), the movable member (roller) attached to the door; wherein the force assembly includes a back plate and a frame, the movable member positioned between the back plate and the frame (seen in figure 7); further including a cassette receptacle (20b and 70b) for receiving the pump cassette (50); wherein the force assembly is movably coupled to the control assembly to allow access to the cassette receptacle (figure 7 and 8); wherein the cassette receptacle (20b and 70b) is movably coupled to the force assembly (figure 8).

Applicants disagree with the characterizations by the Office Action of the disclosures of DeMeo. The Office Action cites DeMeo, col. 1 ll. 8-33, for disclosing a pneumatically operated pump cassette. DeMeo actually discloses a cassette assembly that mounts on a “modular control console” for “controlling the application of suction and infusion fluid for the instrument.” However, no reference is made to having a movable member capable of applying force to the pump cassette to sealingly press the pump cassette against a control assembly or operating means, as recited in claims 28 and 42 of the instant application.

Nor does DeMeo disclose a pneumatic circuit for controlling the expandable member, as required by claim 32 of the instant application. That DeMeo discloses a “source of vacuum for a suction line connected between [a] cassette and [a] surgical instrument” has no bearing on - and certainly does not teach or suggest - the use of a pneumatic circuit to control a movable member to apply a force to the pump cassette to sealingly press the pump cassette against the control assembly. No reading of DeMeo provides any suggestion of the subject matter of claim 32.

Furthermore, the latch 16, latch supports 17a and 17b, and cam bar 18 disclosed by DeMeo cannot properly be construed to be a control assembly. According to DeMeo at Col. 3 ll. 53-58:

The latch may be swung down so that the cam bar engages the upper edge of the cassette. The latch is then pressed firmly against the front surface of the cassette, causing the cam bar to roll to the center of the cassette top which presses the suction tubing of the cassette against the pump head.

Nowhere in DeMeo is there any indication that the latch, latch support and cam bar comprise a “control assembly having pneumatic channels for actuating the flexible membrane on the pump cassette,” as recited in claim 28 of the instant application. At best, if properly enabled, the latch, latch support and cam bar disclosed by DeMeo operate to affix the cassette of DeMeo to an area 48 of the peristaltic pump module. (DeMeo, col. 3, ll. 44-45). In contrast, a control assembly within the context of the instant application applies pneumatic pressure at various times to flex the membranes of the various pump chambers and valves of the pump cassette .

Also, DeMeo fails to disclose pump tubing as being capable of applying a force to the pump cassette to sealingly press the pump cassette against the control assembly. Rather, DeMeo states that when “the latch [is] swung down,” ... “the cam bar engages the upper edge of the cassette,” ... “causing the cam bar to roll to the center of the cassette top which presses the suction tubing of the cassette against the pump head.” (DeMeo col. 3, ll. 53-60). More particularly, DeMeo fails to disclose **any** mechanism that applies force to a pump cassette to **sealingly** press the pump cassette against a control assembly or operating means, as recited in claims 28 and 42.

In addition, the pump tubing 58 of DeMeo is “collapsible” such that the roller head of the disclosed peristaltic pump is able to “compress” the tubing and “squeeze liquid through it in the direction of rotation of the roller head.” (DeMeo col. 1, ll. 41-45). DeMeo provides no support for the idea that “roller/tubing” is capable of “expanding to press the pump cassette against the control assembly,” as alleged in the Office Action, and certainly does not disclose a movable member that “can be actuated after the door has been closed against the pump cassette and control assembly,” as recited in claim 29 of the instant application.

For at least these reasons, DeMeo fails to anticipate each and every element of claims 28 and 42 in the instant application, and therefore also fails to anticipate any of the dependent claims. Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. §102(b) of any claims in the instant application.

Claim Rejections under 35 U.S.C. §103(a)

Claim 6

The Office Action rejected claim 6 as obvious over DeMeo under 35 U.S.C. §103(a). The Office Action states that “it would have been obvious to one of ordinary skill in the art to

have a pneumatic circuit for controlling the movable member as commonly known and used phenomenon in the art.” Applicants respectfully traverse.

First, claim 6 depends from an allowable base claim, and is therefore allowable. Furthermore, DeMeo fails to disclose, teach or suggest a pneumatic circuit for controlling a movable member to apply a force to a pump cassette to sealingly press the pump cassette against a control assembly, as required by claim 32 of the instant application. The disclosure in DeMeo of “a source of vacuum for a suction line connected between [a] cassette and [a] surgical instrument” (DeMeo, col. 1 ll. 22-24) has no bearing on - and certainly does not teach or suggest - the use of a pneumatic circuit to control the movable member as claimed in the instant application.

Claim 7

The Office Action rejected claim 7 under 35 U.S.C. §103(a) as being unpatentable over DeMeo in view of U.S. Patent no. 5,267,956 to Beuchat (“Beuchat”). The Office Action states that “it would have been obvious to one of ordinary skill in the art at the time of invention to modify DeMeo in view of Beuchat for the purposes of withdrawing fluid from fluid conduit and expelling the fluid through discharge line.” Applicants respectfully traverse.

First, claim 7 depends from an allowable base claim, and is therefore allowable. In addition, Applicants must point out that the conclusion drawn by the Office Action fails to address the subject matter of the claims of the instant application. None of the claims is drawn to “withdrawing fluid from a fluid conduit and expelling the fluid through a discharge line,” rendering the Office Action rejection inapposite.

As stated by the Supreme Court in *KSR Int’l v. Teleflex Inc.* (and quoted in MPEP 8th Ed., Rev. 6 at §2141), “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” 127 S.Ct. 1727, 1741 (2007) (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). This requirement having not been met, and considering that the Office Action has not provided at least a suggestion in the cited art of all the features of claims 28 and 42, Applicants respectfully request reconsideration and withdrawal of the rejections of any claims under 35 U.S.C. §103(a).

Conclusion

For the foregoing reasons all of the claims of the present invention are patentable over the art of record. It is believed that all of the claim rejections have been addressed and that the application is now in condition for allowance. Reconsideration of the claims and issuance of a notice of allowance are respectfully requested. If any matter arises which may expedite issuance of a notice of allowance, the Examiner is requested to call the undersigned, at the telephone number given below.

Applicants request that \$810.00 be charged to Deposit Account No. 50-4383 to cover the fee for the Request for Continued Examination. Applicants petition for a three month extension of time. Applicants request that the associated extension fee be charged to Deposit Account No. 50-4383. Applicants also request that any other fee required for timely consideration of this application be charged to Deposit Account No. 50-4383.

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Respectfully submitted,

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